

REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 11, 14-15, 19-20, 16 and 32 are amended. Claims 1-32 are pending in the application.

Entry of Amendment under 37 C.F.R. § 1.116

The Applicant requests entry of this Rule 116 Response because: the amendments were not earlier presented because the Applicant believed in good faith that the cited references did not disclose the present invention as previously claimed; and the amendment does not significantly alter the scope of the claim and places the application at least into a better form for purposes of appeal.

The Manual of Patent Examining Procedures (M.P.E.P.) sets forth in Section 714.12 that “any amendment that would place the case either in condition for allowance or in better form for appeal may be entered.” Moreover, Section 714.13 sets forth that “the Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified.” The M.P.E.P. further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

I. Claim Objections

In the Office Action, at page 2, numbered paragraph 1, claim 32 was objected to because of informalities. In light of the Examiner’s comments, claim 32 was amended for non-substantive reasons, and accordingly, withdrawal of the objection is respectfully requested.

II. Rejection under 35 U.S.C. § 112

In the Office Action, at page 2, numbered paragraph 2, claims 15 and 32 were rejected under 35 U.S.C. § 112, 2nd paragraph as being indefinite. In light of the Examiner’s comments, claims 15 and 32 were amended for non-substantive reasons, and accordingly, withdrawal of the § 112, 2nd paragraph rejection is respectfully requested.

III. Rejection under 35 U.S.C. § 102

JP '543

In the Office Action, at page 3, numbered paragraph 3, claims 11, 15, 19-20, 23 and 26-28 were rejected under 35 U.S.C. § 102(b) as being unpatentable over Japanese Patent No. 57-180543. This rejection is respectfully traversed because JP '543 does not discuss or suggest:

automatically detecting a type of the sheet of paper to be picked up and supplying a signal indicative of the type of the sheet of paper to be picked up;

classifying the paper to a first type having a thickness within a predetermined range or a second type thicker than the first type of paper based on the signal; and

pivotaly moving the at least one friction member to the second direction by driving the cam unit, the friction member applying frictional resistance to a leading edge of the sheet of paper,

as recited in independent claim 11. JP '543 further does not discuss or suggest:

automatically detecting whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type; and

dynamically changing a structure of a friction member and pivotaly moving the friction member applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up,

as recited in independent claim 19 and similarly in independent claims 20 and 26.

As a non-limiting example, the present invention as set forth in claim 11, for example, is directed to a method of picking up paper in a printing apparatus in which a type of sheet of paper is automatically detected by a sensor, and the paper is classified as a first or second type of paper, where one type is of a greater thickness than the other. Then at least one friction member is pivotably moved based on the detected type of paper.

JP '543 discusses a paper feed unit in which switches are actuated by the operation of operation buttons and that, depending on which switch is actuated, the second cam stops at a thin paper position, a normal paper position or a thick paper position. When the cam stops moving, the position of the lower paper-feed roller relative to the upper roller is changed to adjust the pressure. JP '543 does not discuss or suggest that the type of paper is automatically detected, but that the switches of the paper feed unit have to be operated to specify whether the paper to be used is thin, normal or thick. In JP '543, once the operating buttons are actuated,

the paper feed unit moves the cam in relation to one of the paper positions. In contrast, the present invention as set forth in claim 11, for example, discusses that there is an automatic detection of the type of paper that is fed into the printing apparatus. JP '543 requires actuation of a button and does not discuss that the type of paper is automatically detected and then a friction member is pivotally moved based on the detection.

Therefore, as JP '543 does not discuss or suggest "automatically detecting a type of the sheet of paper to be picked up and supplying a signal indicative of the type of the sheet of paper to be picked up; classifying the paper to a first type having a thickness within a predetermined range or a second type thicker than the first type of paper based on the signal; and pivotally moving the at least one friction member to the second direction by driving the cam unit, the friction member applying frictional resistance to a leading edge of the sheet of paper," as recited in independent claim 11, and JP '543 does not discuss or suggest "automatically detecting whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type; and dynamically changing a structure of a friction member and pivotally moving the friction member applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up," as recited in independent claim 19, and similarly in independent claims 20 and 26, claims 11, 19, 20 and 26 patentably distinguish over the reference relied upon. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Claims 15, 23 and 27-28 depend either directly or indirectly from independent claims 11, 19 and 26 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 23 recites that "the structure of the friction member allows a predetermined frictional force to be applied to a leading edge of the paper." Therefore, claims 15, 23 and 27-28 are believed to be allowable for at least the reasons noted above. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

JP '931

In the Office Action, at page 6, numbered paragraph 4, claims 19-21, 23 and 26-28 were rejected under 35 U.S.C. § 102(b) as being unpatentable over Japanese Patent Pub. No. 4-197931. This rejection is respectfully traversed because JP '931 does not discuss or suggest:

automatically detecting whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type; and
dynamically changing a structure of a friction member and pivotally

moving the friction member applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up,

as recited in independent claim 19, and similarly in independent claims 20 and 26.

JP '931 discusses a sheet conveyor device that sets a feeding force of a feeder and a separating force of a separator. In JP '931, a sensor and read part detect the thickness of separated sheets, and the feeding force of the feeder 3 and separating force of the separator 4 are set according the size, thickness, etc. of the sheets. The Examiner alleges that the feeder 3 of JP '931 corresponds to the friction member of the present invention. However, it is unclear as to how the feeder of JP '931 is pivotably moved based on the classification or detection of the thickness of the paper. The feeder 3 and separator 4 appear to be rollers that are adjusted based on the detected thickness and skew of the sheet of paper, but JP '931 does not appear to discuss or suggest that the feeder 3 is pivotally moved based on the type of paper that is detected. Further, JP '931 merely discusses that the feeding force and separating force are set so that the sheets are separated sheet by sheet, but does not discuss or suggest the pivotably moving of a friction member such that the plurality of papers are separated picked up.

Therefore, as JP '931 does not discuss or suggest "automatically detecting whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type; and dynamically changing a structure of a friction member and pivotally moving the friction member applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up," as recited in independent claim 19, and similarly in independent claims 20 and 26, claims 19, 20 and 26 patentably distinguish over the reference relied upon. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Claims 21, 23 and 27-28 depend either directly or indirectly from independent claims 19, 20 and 26 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 21 recites that "the operation of supplying the signal comprises: supplying a detection signal via a detection sensor that detects the types of paper loaded in a paper feeding section provided to the printing apparatus." Therefore, claims 21, 23 and 27-28 patentably distinguish over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Saito

In the Office Action, at page 9, numbered paragraph 5, claims 11-12, 19-21, 23, 26-28 and 32 were rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Patent No. 5,449,162 to Saito et al. This rejection is respectfully traversed because Saito does not discuss or suggest:

automatically detecting a type of the sheet of paper to be picked up and supplying a signal indicative of the type of the sheet of paper to be picked up;

classifying the paper to a first type having a thickness within a predetermined range or a second type thicker than the first type of paper based on the signal; and

pivotaly moving the at least one friction member to the second direction by driving the cam unit, the friction member applying frictional resistance to a leading edge of the sheet of paper,

as recited in independent claim 11, Saito does not discuss or suggest:

automatically detecting whether the plurality of papers are a first type having a thickness within a predetermined range or a second type thicker than the first type; and

dynamically changing a structure of a friction member and pivotaly moving the friction member applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up,

as recited in independent claim 19, and similarly in independent claims 20 and 26, and Saito does not further discuss or suggest:

determining whether the paper belongs to a first type of paper or a second type of paper having greater thickness than the first type of paper based on stored information indicative of a type of paper; and

automatically adjusting the friction member based on said determining to dynamically change an angle formed between the friction member pivotaly attached to the paper feeding section and a leading edge of a sheet of paper picked up from the paper feeding section, the friction member applying frictional resistance to a leading edge of the paper,

as recited in independent claim 32.

Saito merely discusses a sheet feeding device where if a sheet of paper is not detected by sensor 132, separation roller 126, supported by separation-roller support 127 rotatable around fulcrum 128, is driven downwardly so that the sheet of paper can be fed through the sheet feeding device. Saito discusses that when the sheet of paper has been detected, motor

131 is stopped to fix the position of separation roller 126 (col. 9, lines 40-62). Further, Saito discusses that "a detection signal representing the thickness of the sheet detected by such sheet-thickness detection means is transmitted to a control unit 135 [which] adjusts the amount of overlap between the feeding roller and the inversely-rotating roller based on the detection signal" (col. 13, lines 19-25). Saito does not discuss or suggest "pivotaly moving the at least one friction member to the second direction by driving the cam unit," does not discuss or suggest "dynamically changing a structure of a friction member and pivotaly moving the friction member based on the detection so that each of the plurality of papers are separately picked up," and does not discuss or suggest "automatically adjusting the friction member based on said determining to dynamically change an angle formed between the friction member pivotaly attached to the paper feeding section and a leading edge of a sheet of paper picked up from the paper feeding section," as recited in independent claims 11, 19 and 32, and similarly in claims 20 and 26. Saito does not discuss or suggest that the roller is pivotaly moved based on the detection of the type of paper involved. Saito discusses lowering the separation roller until the uppermost sheet of originals starts to be conveyed (col. 9, line 68 – col. 10, line 2). Saito does not discuss that the adjustment of the friction member is done based on the detected type of paper, but merely that the roller is raised or lowered by an amount until the sheet of paper is detected, and when it is detected, the motor is stopped to fix the position of the separation roller.

Therefore, as Saito does not discuss or suggest "automatically detecting a type of the sheet of paper to be picked up and supplying a signal indicative of the type of the sheet of paper to be picked up," as recited in independent claim 11 and similarly in independent claims 19, 20, 26 and 32, and Saito does not discuss or suggest "pivotaly moving the at least one friction member to the second direction by driving the cam unit, the friction member applying frictional resistance to a leading edge of the sheet of paper," or "dynamically changing a structure of a friction member and pivotaly moving the friction member applying frictional resistance to a leading edge of each of the plurality of papers based on the detection so that each of the plurality of papers are separately picked up," as recited in independent claims 11 and 19 and similarly in claims 20, 26 and 32, claims 11, 19, 20, 26 and 32 patentably distinguish over the reference relied upon. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Claims 12, 21, 23 and 27-28 depend either directly or indirectly from independent claims 11, 19, 20 and 26 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 27 recites that "a frictional resistance applied to the leading edge of the paper by

the friction member increases when the angle formed between the friction member and the leading edge of the paper is reduced.” Therefore, claims 12, 21, 23 and 27-28 are believed to be allowable for at least the reasons noted above. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

IV. Rejection under 35 U.S.C. § 103

In the Office Action, at page 13, numbered paragraph 6, claims 13 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saito in view of U.S. Patent No. 6,002,891 to Shin. This rejection is respectfully traversed.

As discussed above, Saito does not discuss or suggest all the features of independent claims 11 and 20, specifically, automatically detecting a type of the sheet of paper to be picked up and supplying a signal indicative of the type of the sheet of paper to be picked up and pivotally moving the at least one friction member to the second direction by driving the cam unit, the friction member applying frictional resistance to a leading edge of the sheet of paper. Shin fails to make up for the deficiency in Saito. Specifically, Shin merely discusses a paper pressing force controller including a sensor that contacts a guide roller, measures the thickness of a paper sheet and sends a signal indicative of the thickness to the controller. While Shin discusses determining a thickness of a paper sheet, Shin does not discuss or suggest that a friction member is pivotally moved and that the friction member applies frictional resistance to a leading edge of a sheet of paper. Therefore, as the combination of Saito and Shin does not discuss or suggest all the features of independent claims 11 and 20, as is required in a *prima facie* showing of obviousness, claims 11 and 20 patentably distinguish over the references relied upon.

Claims 13 and 22 depend from independent claims 11 and 20, respectively, and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the references relied upon. For example, claim 13 recites that “the operation of supplying the signal comprises: supplying a signal from a memory having stored information in relation to the types of paper inputted through a print driver by a user.” Therefore, claims 13 and 22 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

V. Allowable Subject Matter

Applicants are appreciative of the acknowledgement by the Examiner that claim 14 would be allowable if rewritten in independent form, and accordingly, claim 14 was amended in light of the Examiner's comments.

Conclusion

In accordance with the foregoing, claims 11, 14-15, 19-20, 16 and 32 have been amended. Claims 1-32 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

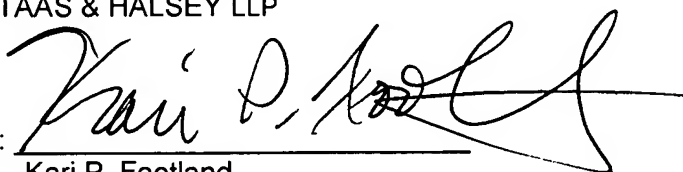
Respectfully submitted,

STAAS & HALSEY LLP

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6/6/06

By: _____



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